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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
BARTON, JEFFREY THOMAS	
ART UNIT	**PAPER NUMBER**
1753	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/689,010	HATA, YOSHIAKI	
	Examiner	Art Unit	
	Jeffrey T. Barton	1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 July 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,8 and 30-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5, 8, and 30-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5 July 2006 has been entered.

Response to Amendment

2. The amendment filed on 5 July 2006 does not place the application in condition for allowance.

Status of Rejections Pending Since the Office Action of 5 April 2006

3. All previous rejections are maintained.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-5, 8, and 30-33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject

matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 1 and 31 currently require that the second electrode be provided "in a position at least partially opposite said first electrode". The specification and Figure 3 disclose that the second electrode (45) is positioned opposite the first electrode (44), and no disclosure is seen to support the second electrode being positioned only "partially" opposite the first electrode.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1 and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Yager et al.

Regarding claim 1, Yager et al disclose a microchip comprising a channel having internal surfaces (e.g. Figure 5, channels defined along the substrate), wherein analyzed objects travel through the channel; an optical element facing the channel to receive light from the objects, said optical element having a surface forming a part the

internal surface of the channel (Figure 7; Column 9, lines 21-37 - light passes through the substrate to a detector below - the substrate itself therefore reads on the claimed "optical element"); the microchip further comprising as deflecting elements for approximating the objects in the channel to the optical element: first and second electrodes provided on top and bottom channel surfaces, respectively, positioned at an upstream side of the detection element and opposite each other (Figures 5 and 7; pairs of electrodes 402; Column 7, lines 10-20); wherein said object is capable of being approximated to said optical element in a direction transverse to the length of the channel by applying an electric field to the electrodes. (Column 7, lines 17-20 discloses applying a potential across opposite electrodes, which provides this capability during the electrophoretic analysis of charged objects)

Regarding the limitation "at an upstream side of said optical element", it is the Examiner's position that the cover shown e.g. in figures 5 and 7 of Yager et al reads on the claimed "optical element" as it transmits light, and that in the figures as illustrated, the left side of each cover can accurately be described as an "upstream side", as the analytes migrate from left to right, as disclosed. Therefore, the electrodes disposed at the left in each figure can accurately be described as "at an upstream side of said optical element", broadly recited.

Regarding claim 30, Yager et al disclose such an optical detecting element. (Figure 7; Column 9, lines 26-28)

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 1, 8, 30, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuhr (WO 98/28604) in view of Günther. (WO 96/13744) Since these documents are in German, citations below are given to US 6,440,285 and US 5,933,233 respectively, which issued from the National Stage entry of these International Applications.

Regarding claim 1, Fuhr discloses a microchip comprising channel having internal surfaces wherein analyzed objects travel through the channel (Figure 2; Column 3, line 66 - Column 4, line 3); the microchip further comprising as deflecting elements for moving objects through the channel: first and second electrodes provided on top and

bottom channel surfaces, respectively, positioned upstream from the detection element and opposite each other. (Figures 1 and 2; e.g. electrodes 24c and 24d; Column 6, lines 33-49) Fuhr also specifically suggests incorporating the optical detection system of Günther into his analysis system. (Column 3, lines 14-33)

Fuhr does not explicitly disclose an optical element as claimed, or structure corresponding to the limitations pertaining to this element.

Regarding claim 1, Günther discloses a detection system wherein an optical element that receives light from analyzed objects (Figure 2; Wall between aperture 4 and channel 2 directly above detector 5; Column 7, line 65 - Column 8, line 5) forms a portion of the internal surface of the channel.

Regarding claims 8 and 31, Günther discloses using a waveguide to direct excitation radiation to a portion of the channel including the optical element. (Figure 4; Column 8, lines 15-22)

Regarding claim 30, Günther discloses a detector for detecting light that passes through the element. (Figure 2 or 4, detector 5)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Fuhr by incorporating the detector of Günther in an appropriate detection region in a downstream portion of the channel, because Fuhr specifically suggests incorporating this detector. (Column 3, lines 14-33)

In such a combination, the electrodes would inherently be capable of approximating analyzed particles in a direction transverse to the length of the channel (e.g. Trajectory a or b, in Figure 1; Column 5, line 38 - Column 6, line 12), towards the

optical element, no matter which channel wall is chosen to contain the optical element associated with the detector of Günther. This combination meets all limitations of the claims.

Specific to claim 31, Figures 3 and 4 of Günther shows a lens (8) disposed between the end of the waveguide (9), but the disclosure of Günther clearly shows such lenses to be optional within the device. Note particularly Column 3, lines 49-53 ("refractive or diffractive optical elements *may* be used", italics added) and the description of means for guiding light to the analyte with no mention of such a lens. (Column 3, lines 26-44) The optional lenses may clearly be included or excluded, depending on the desired size of the detection region within the channel, and choice of the size of such a region is a matter of choice to a skilled artisan. In case of omission of the lens, the guide (9) would clearly extend to the channel wall, where it would be a part of the channel surface as claimed. Where sample choice allowed, one having ordinary skill would have been motivated to omit such a lens between waveguide and channel because it would have simplified device construction and reduced production costs due to reduction in the number of steps required and elimination of the expense associated with production of the lens.

Given an alternative reading of the claim, lens (8) in Figures 3 and 4 of Günther is clearly part of a structure (8-9-8) that guides light from laser 3 to the channel 2. Leftmost lens 8 also clearly forms a portion of the side surface of channel 2 with its light-emitting surface. Structure 8-9-8 thus clearly meets the requirements of the claimed light guide.

In either interpretation, the structure defined by this combination clearly meets all claim limitations.

11. Claims 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuhr and Günther as applied to claim 31 above, and further in view of Pace.

Fuhr and Günther disclose a combined device as described above in addressing claims 1, 8, 30, and 31. The device described in this combination would clearly have a second side surface as required in claim 32. In addition, Günther teaches microchannel fabrication using silicon substrates and conventional chemical etching methods. (Column 5, lines 14-16; Column 6, lines 1-9) Fuhr provides no description of the channels, other than that they are used. (Column 3, line 66 - Column 4, line 3)

Neither Fuhr nor Günther explicitly discloses a channel having a trapezoidal cross section or a light guide surface having a slope similar to the side wall.

Pace is exemplary of conventional chemical etching techniques used to form microchannels in silicon. Pace describes conventional micromachining techniques (Column 7, lines 14-53) for silicon, which result in channels having trapezoidal cross-section. (Figure 3; Column 6, lines 1-5)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the device of Fuhr and Günther by specifically using trapezoidal channels, as shown by Pace, because Günther suggests using conventional chemical etching techniques and silicon substrates, and typical chemical

etching techniques for silicon wafers result in such channel shapes, as demonstrated by Pace.

Regarding claim 33, it would also have been obvious to one having ordinary skill in the art to fashion the end of the light guide structure to match the slope of the side wall of the trapezoidal channel, because a skilled artisan would have wanted to avoid turbulence or other flow irregularities in the channel, which are well known in the art to interfere with accurate detection in flow systems. If the light-emitting portion of the light guide structure, which forms a portion of the channel wall, did not substantially match the wall slope, turbulence would have resulted upon provision of flow in the channel.

12. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yager et al in view of Kennedy.

Yager et al disclose a device as described above in addressing claim 1.

Relevant to claim 2, Yager et al also disclose a portion of the internal surface of the channel being defined by a groove formed on a first surface of a substrate. (e.g. Figure 5; Column 4, lines 48-55 and Column 5, lines 36-42) This substrate (e.g. a silicon wafer) has a second surface opposed to the first surface.

Relevant to claim 4, Yager et al disclose a cover plate covering the channel (Figure 5)

Yager et al do not explicitly disclose a through hole connecting a bottom of the groove to the second surface, wherein said optical element is provided in said through hole.

Kennedy discloses a microfluidic device comprising a groove disposed on a first surface, with a through hole connecting the bottom of the groove to a second surface, and the optical element being provided in said hole. (Column 7, lines 33-65; the hole in Kennedy's device passes through both substrates, providing the window in the case of opaque substrate materials. Nevertheless, it does connect the bottom of the groove to the second surface, and therefore reads on the claimed device.)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Yager et al by providing a through hole through the plates of the device for the detection window, as taught by Kennedy, because it would eliminate any concerns about absorbance, scattering, or other interference from the substrate. Furthermore, in the case of a silicon or other opaque substrate (Yager Column 4, lines 48-50), a through hole with a transparent window (i.e. optical element) would be necessary for use of a detector positioned below the substrate. Such positioning of the detector (Above or below the substrate, Yager et al Column 9, lines 26-32, Figure 5) is a matter of design choice to one having ordinary skill in the art.

Regarding claim 3, neither Kennedy nor Yager et al explicitly disclose a tapered through hole.

However, it is well within the abilities of one having ordinary skill in the art to select a shape suitable for the hole that accommodates the detection window. For

instance, in *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966), the court held that the configuration (i.e. shape) of the claimed object was a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed container was significant.

Furthermore, both Yager et al (Column 4, lines 48-50) and Kennedy (Column 3, line 65 - Column 4, line 4) disclose forming the microfluidic devices from silicon, and conventional etching techniques (e.g. KOH) typically attack silicon anisotropically, resulting in tapering pits, trenches, or holes. Therefore, tapered through holes would inherently result from etching the silicon substrate with typical etching solutions in order to form the structure required in this combination.

13. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yager et al in view of Manz et al and Kricka et al.

Yager et al discloses a device as described above in addressing claim 1.

Relevant to claim 2, Yager et al also disclose a portion of the internal surface of the channel being defined by a groove formed on a first surface of a substrate. (e.g. Figure 5; Column 4, lines 48-55 and Column 5, lines 36-42) This substrate (e.g. a silicon wafer) has a second surface opposed to the first surface.

Relevant to claim 4, Yager et al disclose a cover plate covering the channel (Figure 5)

Yager et al do not explicitly disclose a through hole connecting a bottom of the groove to the second surface, wherein said optical element is provided in said through hole.

Relevant to claim 2, Manz et al teach the construction of a detector (for incorporation into miniaturized separation systems (Column 2, lines 58-60), in which a substrate (Figure 4, plate 5) has a second surface (top, as shown in Figure 4) opposed to a first surface and has a through hole (11) with an optical element (13) disposed therein.

Relevant to claim 3, Manz et al disclose the through hole (11) having a tapered shape. (Figure 4)

Relevant to claim 2, Manz et al do not explicitly disclose the channel being defined in part by a groove on the first surface (interior) of substrate (5).

Kricka et al disclose formation of channel grooves in a microfluidic device on the same substrate as through-holes that provide access to the channels. (i.e. the channel is defined by a groove on one surface and holes connect the bottom of the groove to the opposing surface - see Figures 2 and 4) The device of Kricka et al is made of the same material (crystalline silicon) as used by both Manz et al and Yager et al.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Yager et al by replacing their detector with

an on-chip detector cell, as taught by Manz, because Manz teaches its effectiveness in increasing detection sensitivity in miniaturized separation apparatuses (Yager et al is an example) by providing an increased detection path length. (Column 2, lines 49-60)

It would also have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the combined device of Yager et al and Manz et al by fabricating the channel on the inward-facing surface of substrate 5 (Manz), instead of plate 6, as taught by Kricka et al, because it would simplify device construction by allowing channel paths to be directly defined by through hole locations (i.e. channel etching could be guided by hole locations after through-hole etching), and eliminating concerns over the alignment of plates relative to each other. Furthermore, the choice of which plate(s) to use in providing through holes for communication with the channel would have been within the level of ordinary skill in the art.

14. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yager et al in view of either Weigl et al or Swerdlow et al.

Yager et al discloses a device as described above in addressing claim 1.

Yager et al do not explicitly disclose the optical element comprising a condenser lens.

Weigl et al disclose a detector comprising a condenser lens useful in combination with microfluidic devices. (Figure 2, lens 50, cartridge 34 corresponds to the microfluidic device - see background section; also Column 4, lines 16-40)

Swerdlow et al describe a detector comprising a lens that "condenses" light emitted over a range of angles into a converging beam, wherein the detector is used in combination with a capillary flow cell. (Figure 3, objective lens)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Yager et al by replacing their detector with the detector taught by Weigl et al, because they teach its usefulness in detecting multiple analytes at multiple wavelengths (Column 3, lines 7-15), and electrophoresis devices, such as that of Yager et al, are often used for analysis of multicomponent samples.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Yager et al by replacing their detector with the detector described by Swerdlow et al, because they teach its extremely high sensitivity. (Abstract)

In these rejections, given the open language of the claims (i.e. "comprising") the limitation "optical element having a surface forming part of the internal surface of the channel" is read broadly such that a detection system comprising both a window that forms part of the channel's internal surface and a condenser lens is held to read on the claim limitations.

15. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yager et al in view of Manz et al.

Yager et al disclose a device as described above in addressing claim 1.

Yager et al do not explicitly disclose a device comprising a light guide for guiding light from an external source to a prescribed area of the channel, wherein the optical element is provided at the prescribed area.

Manz et al teaches the construction of a detector for incorporation into miniaturized separation systems (Column 2, lines 58-60) comprising a light guide (Figure 4, Fiber 12) for guiding a light from an external source to an area of the channel (the portion between Fibers 13 and 13), wherein the element (13) is provided at the prescribed area.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Yager et al by replacing their detector with an on-chip detector cell, as taught by Manz et al, because Manz et al teach its effectiveness in increasing detection sensitivity in miniaturized separation apparatuses (Yager et al is an example) by providing an increased detection path length. (Column 2, lines 49-60)

Response to Arguments

16. Applicant's arguments filed 5 July 2006 have been fully considered but they are not persuasive.

Regarding the rejection under 35 U.S.C. §112, first paragraph, Applicant argues that the structure shown in instant Figure 3 is fully supportive of the language currently recited in the claim. (i.e. "at least partially opposite") The Examiner disagrees with this

characterization. No portion of the second electrode (45) is shown to be only "partially opposite" the first electrode (44). At any given position in electrode 45, a portion of electrode 44 is present on the opposite side of the channel. This is "opposite", not "partially opposite". Given one interpretation, electrode 44 might possibly be said to be "partially opposite" electrode 45, since its rightmost portion extends beyond electrode 45, but Applicant provides no basis in the specification describing what precisely is intended by the term "partially opposite", and therefore the written description requirement has not been met. In addition, the term "partially opposite" clearly encompasses electrode arrangements (e.g. if electrode 45 in Figure 3 extended further to the left) that have no support in the specification as filed. The rejection must therefore be maintained.

Regarding the rejections based on Yager et al, Applicant argues that Yager does not teach a second electrode "provided to face said channel at an upstream side of said optical element". The Examiner maintains that the cover shown e.g. in figures 5 and 7 of Yager et al reads on the claimed "optical element" as it transmits light, and that in the figures as illustrated, the left side of each cover can accurately be described as an "upstream side", as the analytes migrate from left to right, as disclosed. Therefore, the electrodes disposed at the left in each figure can accurately be described as "at an upstream side of said optical element", broadly recited.

Applicant further argues that Yager does not teach applying an electric field such that an object is approximated to the optical element. This is immaterial to the rejection, since the claims are directed to an apparatus, not a method. A recitation of the

intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963). The positioning of the electrodes in Yager et al clearly allow such function, and therefore Yager et al meets the limitations of the claim.

Applicant disputes the characterization of the wall 4 of Günther as an optical element, asserting that it does not transmit light and has no "optical power". This is not persuasive for several reasons. At the outset, given the geometry of the device of Günther, light must clearly pass through the wall portions adjacent the source 3 and detector 5 - otherwise the detector could not function. Günther discloses that this is the case at Column 5, lines 5-13. Applicant asserts that the silicon used is not transparent to visible light, which is not entirely true. Visible light penetrates crystalline silicon to a finite depth, and a significant portion of visible light will pass through a window of silicon that is thin enough. (e.g. microns or less) In any event, Günther's disclosure is not limited to silicon (Column 5, lines 14-16), nor is it limited to visible light. The argument pertaining to the "optical power" of the optical element carries no weight, since no limitation to this is recited in the claim. In any event, the term "optical element" must be given the broadest reasonable interpretation, which would be taken to be any element that reflects, transmits, absorbs, refracts, or otherwise interacts with light in any way pertinent to the structure or operation of the device.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Craighead and Nagle et al disclose microchannel systems having integral optical elements.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Jeffrey T. Barton whose telephone number is (571) 272-1307. The examiner can normally be reached on M-F 9:00AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JTB
11 January 2007

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